



## INTER-OFFICE MEMO

TO: Application Programmers

FROM: George Simcock

DATE: March 26, 1979

SUBJECT: Proposed Colleen/Candy Game Standards (Rev. A)

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When a game cartridge is entered and the door closed, control is given directly to the game. The following describes the two methods of selecting a game:

### MENU

- The game displays a menu of games.
- User enters corresponding number on keyboard.
- Game starts immediately.
- Game start key restarts currently selected game.
- Game select key causes the menu to be redisplayed.
- Option select; no action.
- System reset: enters warm start of cartridge.
- Control 1 may make game pause.

### NO MENU

- First game displayed; <sup>a</sup>top line displays the following: "GAME 1, OPTION 1."
- Game select button causes next game to be entered and the game number in the top line to increase. If button held down, the game increments every .5 second. If depressed while executing game, it exits game and option numbers are set to 1.
- Option select: same as game select but option increases. If executing game, it exits game, leaves game number select as is, and resets option to 1.
- Game restart: starts game initially and restarts game, if currently active.
- System reset: enters warm start of cartridge.
- Control 1 may make game pause.

1-4 Player Game: Assign controllers from left to right.

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Attract is done automatically by the operating system.

All cartridges should use OS initialization which requires storing cold start address and executing a RTS. If cold start and warm start addresses differ, the warm start address should be stored when control received for cold start.

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FILENAME = CARTP. INF  
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CARTRIDGE/OPERATING-SYSTEM INTERFACE REQUIREMENTS  
2/21/79

THE TOP 4 BYTES OF ADDR-SPACE OF A CARTRIDGE ARE USED BY THE COLLEEN OPERATING SYSTEM (O.S.). TOP ADDR FOR CARTRIDGE "A" IS "\$BFFF", CARTRIDGE "B" IS "\$9FFF".

BYTE 0 -- TOP ADDR-3  
BYTE 1 -- TOP ADDR-2  
BYTE 2 -- TOP ADDR-1  
BYTE 3 -- TOP ADDR

THE FUNCTIONS OF THESE BYTES ARE:

BYTE 0 -- SET TO "00". USED BY O.S. TO DETECT PRESENCE OF A CARTRIDGE.  
BYTE 1 -- FLAG-BYTE. SEE TABLE BELOW FOR FLAG MEANING.  
BYTE 2 -- LO BYTE OF INIT SUBROUTINE ADDR IN CARTRIDGE  
BYTE 3 -- HI BYTE OF INIT. ADDR.

THE O.S. WILL "JSR" TO THE INIT. ROUTINE. THIS ROUTINE MUST:

1. INITIALIZE THE CARTRIDGE SOFTWARE.
2. SET THE CARTRIDGE START ADDR (IF IT IS TO BE RUN) IN THE RAM VECTOR, "CARTST"(02E0).  
A HANDLER, FOR INSTANCE, WOULD NOT HAVE TO DO STEP 2.

THE O.S. WILL THEN EXAMINE THE FLAG BYTE OF CARTRIDGE "A" & TAKE THE APPROPRIATE ACTION, AS PER THE BELOW TABLE. IF CARTRIDGE "A" IS NOT PLUGGED IN, THE CARTRIDGE "B" FLAG BYTE WILL BE EXAMINED INSTEAD.

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CARTRIDGE FLAG ACTION DEFINITIONS  
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BIT	ACTION-IF-SET
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6-3	NONE
2	RUN CARTRIDGE
1	RUN-DOS
0	BOOT DOS

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NOTES  
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1. IF BIT-1 & BIT-2 ARE 0, GO TO BLACKBOARD MODE.
2. IF BIT 0 SET, THE DISK WILL BE BOOTED BEFORE ANY OTHER ACTION

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COLLEEN/CANDY MEMORY MAP

F	O.S.	{	D800--FFFF	{	F000--FFFF	4K
E	O.S.				E000--EFFF	4K
	MATH				D800--DFFF	2K
D	2 K IO		D000--D7FF			
C	NOT USED		C000--CFFF			
B	SLOT A	{	A000--BFFF	{	B000--BFFF	4K, B800--BFFF 2K
A					A000--AFFF	4K
9	SLOT B		8000--9FFF			
8	Lnbug Rcm					
7	LNBUG ROM		0 --7FFF			
6						
5						
4	24K					
3	RAM					
2						
1						
0						

CTIA	D000--D0IF	NO CHANGE
ANTIC	D400--D4IF	NO CHANGE
POKEY	D200--D2IF	OLD D800
PIA	D300--D3IF	OLD DC00
DS	ACIAS-D700	NO CHANGE
LNBUG	6000--7FFF	NO CHANGE
LNBUG RAM	8000--81FF	NO CHANGE

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COLLEEN/CANDY VECTORS

E400		OPEN	EDITOR
2		CLOSE	
4		GET	
6		PUT	
8		STATUS	
A		SPECIAL	
C	JMP	POWER ON	

E410		OPEN	SCREEN
2		CLOSE	
4		GET	
6		PUT	
8		STATUS	
A		SPECIAL	
C	JMP	POWER ON	

E420		OPEN	KEYBOARD
2		CLOSE	
4		GET	
6		PUT	
8		STATUS	
A		SPECIAL	
C	JMP	POWER ON	

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COLLEEN/CANDY VECTORS (continued)

		PRINTER
E430		OPEN
2		CLOSE
4		GET
6		PUT
8		STATUS
A		SPECIAL
C	JMP	POWER ON

  

		CASSETTE
E440		OPEN
2		CLOSE
4		GET
6		PUT
8		STATUS
A		SPECIAL
C	JMP	POWER ON

  

E450	JMP	DISK INIT
3	JMP	DISK INTERFACE
6	JMP	CIO
9	JMP	SIO
C	JMP	SETVBL
F	JMP	SYSVBL
62	JMP	XITVBL
65	JMP	SIOINT
68	JMP	SENDEN

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COLLEEN/CANDY VECTORS (concluded)

E46B INTINT

6E CIOINT

E471 BLACKBOARD

E474 WARM START

E477 COLD START

E47A PLA, PLA, RTS

POWER ON and E450 - E47F consist of jump to routine.

OPEN, CLOSE, GET, PUT, STATUS, and SPECIAL consist of address of routine minus one (jump instruction not included).